

[54] METHOD OF USING INTERFERON IN LOW DOSAGE TO REGULATE APPETITE AND EFFICIENCY OF FOOD UTILIZATION

[75] Inventor: Joseph M. Cummins, Amarillo, Tex.

[73] Assignee: Texas A&M University System, College Station, Tex.

[*] Notice: The portion of the term of this patent subsequent to Feb. 5, 2002 has been disclaimed.

[21] Appl. No.: 688,868

[22] Filed: Jan. 4, 1985

Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 448,951, Dec. 13, 1982, Pat. No. 4,497,795.

[51] Int. Cl.⁴ A61K 45/02

[52] U.S. Cl. 424/85.7; 435/811

[58] Field of Search 424/85

[56] References Cited

U.S. PATENT DOCUMENTS

3,906,092	9/1975	Hilleman	424/85
4,053,582	10/1977	Stickl	424/85
4,132,775	1/1979	Volencet et al.	424/89
4,273,703	6/1981	Osther	424/85
4,276,282	6/1971	Sugimoto	424/85
4,460,574	7/1984	Yabrov	424/85
4,462,985	7/1984	Cummins, Jr.	424/85
4,497,795	2/1985	Cummins	424/85
4,675,184	6/1987	Hasegawa	424/85

FOREIGN PATENT DOCUMENTS

0107498	5/1984	European Pat. Off. .
0177342	4/1986	European Pat. Off. .
WO 8200588	4/1982	World Int. Prop. O. .

OTHER PUBLICATIONS

"Circulating Interferon in Rabbits After Administration of Human Interferon by Different Routes", Cantel, K. and Ryhala, L., *Journal of General Virology*, (1973), 20, pp. 97-104.

"Pharmacokinetics of Recombinant Alpha A Interferon Following IV Infusion and Bolus, IM, and PO Administrations to African Green Monkeys", Wills, R. J., Spiegel, H. E., and Soikel, K. F., *Journal of Interferon Research*, vol. 4, No. 3, 1984, pp. 399-409.

"Pharmacokinetics of Recombinant Leukocyte A Interferon Following Various Routes and Modes of Administration to the Dog", Gibson, D. M., et al., *Journal of Interferon Research*, 5:403-408 (1985).

"Some Results and Prospects in the Study of Endogenous and Exogenous Interferon", by V. D. Solov'ev, pp. 240 and 241.

Chemical Abstracts 98:158930m, Barinskii et al (1983).
Chemical Abstracts 92:162033q, Bektemirov et al (1980).

Chemical Abstracts 82:15363h, Best et al (1975).

Biological Abstracts 13273, Grob et al (1985).

"Texas Product License Application", filed with the Texas Department of Health.

Commonwealth Agricultural Bureaux (G.B.), resume no 82818613, 1982; M. B. Thompkins et al: "Response of Feline Leukemia Virus-Induced Nonregenerative Anemia, etc.", vol. 12, No. 3, pp. 6-8, 11-15, 20.

Commonwealth Agricultural Bureaux (G.B.), resume no. 79167361, 1979; V. Toneva: "Cell Systems of the Pig as Interferon Producers", *Bulletin de L'Office International des Epizooties*, vol. 88, 1977, pp. 631-637.
Commonwealth Agricultural Bureaux (G.B.), resume no. 80397313, 1980 H. Rodder et al: "Application of a Viral Interferon Inducer (Bayferon) for the Treatment of Enzootic Bronchopneumonia in Cattle", *Tierarztliche Umschau*, vol. 34, no. 10, 1979, pp. 720-724.

Abstract by Cummins and Hutcheson, "Bovine Respiratory Disease", *Bovine Respiratory Disease, A Symposium*, 1984.

Marx, Jean L., "Interferon Congress Highlights", *Science*, vol. 210.28, Nov. 1980, p. 998.

"Clinical Trials with Exogenous Interferon: Summary of a Meeting", *The Journal of Infectious Disease*, vol. 139, No. 1, Jan. 1979, pp. 109, 112, 115, 116, 123.

"Clinical Trials with Exogenous Interferon: Summary of a Meeting", *The Journal of Infectious Disease*, vol. 139, No. 1, Jan. 1979, pp. 109-123.

"Influence of Exogenous Interferon on Immunologic Reactions of Persons Inoculated with Live Influenza Vaccine", abstract by Solov'ev et al.

"Effect of Interferon on the Antibody Formation in Chicks with Pseudopest", abstract from Chemical Abstracts, authored by Litvinov.

"The Results of Controlled Observations on the Prophylaxis of Influenza with Interferon", by V. D. Solov'ev, 1969, pp. 683-688.

Moore et al and Czarniecki et al, abstracts of European documents.

Sonnenfeld, Time and Dosage of Immunoenhancement by Murine Type II Interferon Preparations¹, 1978.

Stewart and Gottlieb, Interferons and Their Actions, 1981 pp. 102-104.

Werenne, Antiviral Effect of Bacterially Produced Human Interferon Against Experimental Vaccinia Infection in Calves, 1985 pp. 129-136.

American Interhealth.

Biovet International, Inc.

Agriferon-C.

(List continued on next page.)

Primary Examiner—Blondel Hazel

[57]

ABSTRACT

Warm-blooded vertebrates can be given very low dosages of interferons, especially human interferon alpha, to increase efficiency in food utilization. Very low dosages of interferon can also be used to prevent and treat bovine respiratory disease complex. Optimum daily dosages may be as low as 0.10 IU/lb of body weight and possibly even lower.

5 Claims, No Drawings

F